Summary of Discussions

Twenty-Fourth Meeting of the
Informal Pacific Air Traffic Control Coordinating Group
(IPACG/24)

23 - 27 January 2006
Honolulu, Hawaii USA

1.0 Background

1.1 The Twenty-Fourth Meeting of the Informal Pacific Air Traffic Control (ATC) Coordinating Group (IPACG/24) was held at the Renaissance Ilikai Waikiki Hotel in Honolulu, Hawaii, from 23-27 January 2006. The IPACG was established to provide a forum for air traffic service (ATS) providers and airspace users to informally meet and explore solutions to near term ATC problems that limit the capacity or efficiency within the Anchorage, Oakland, and Tokyo Flight Information Regions (FIRs).

2.0 Welcome and Opening Remarks

2.1 The meeting was co-chaired by Ms. Leslie McCormick from the Federal Aviation Administration (FAA) and Mr. Shigeru Kunitake from the Japan Civil Aviation Bureau (JCAB). The meeting attendees are shown in Appendix A.

2.2 Ms. McCormick welcomed the participants to the meeting on behalf of FAA. Ms. McCormick welcomed Mr. Andrew Tiede, Regional Officer, Air Traffic Management (ATM) representing the ICAO Asia/Pacific (APAC) Office. It was announced that the FANS Interoperability Team (FIT) meeting would be held at the end of the week in order that representatives from the South Pacific air traffic service (ATS) provider States could attend in advance of the 20th Meeting of the Informal South Pacific ATS Coordinating Group (ISPACG/20) which would be held 30 January to 1 February 2006. Ms. McCormick announced that FAA's Ocean21 oceanic automation system became operational at Oakland Air Route Traffic Control Center (ARTCC) on 17 October 2005. Associated with that, approval for 50NM longitudinal separation has been granted by the Air Traffic Organization Safety Oversight Office, and that a limited operational trial of 30NM lateral/30NM longitudinal separation (30/30) began on 22 December 2005. Ms. McCormick introduced the FAA support team consisting of Stacey Herishen-Smith, Jerry Bellamy, and Hope Johnson.

2.3 Ms. McCormick recognized Mr. Reed Sladen of the FAA and Mr. Hideo Watanabe of the JCAB as co-chairs to the FIT/11 meeting. Mr. Brad Cornell, Chair of the ISPACG FIT, would also co-chair the FIT meeting.

2.4 Mr. Kunitake welcomed the participants on behalf of the Japan Civil Aviation Bureau (JCAB) Director of ATC Division. He congratulated the FAA on the success of the Ocean21 implementation. Mr. Kunitake noted that there were many working and information papers to be addressed during the meeting. Therefore, he looked forward to extensive discussions during the week.

2.5 Self-introductions of all participants were made. Ms. McCormick noted that the latest versions of papers were available from Hope Johnson at the registration desk.

3.0 Agenda Item 1: Review and Approve Agenda

3.1 The following agenda was proposed and initially adopted by the meeting:

Agenda Item 1	Review and approve agenda
Agenda Item 2	Report on relevant outcomes from other meetings A: APANPIRG/16 B: FANS Interoperability Team (FIT) C: Other meetings
Agenda Item 3	Air Traffic Management (ATM) Issues
Agenda Item 4	Report Review of relevant route requirements in the Asia/Pacific ATS Route Catalogue
Agenda Item 5	Communication/Navigation/Surveillance (CNS) issues
Agenda Item 6	Develop necessary State contingency plans
Agenda Item 7	Civil/Military Coordination
Agenda Item 8	Review and update of CNS/ATM Planning Chart
Agenda Item 9	Other business

3.2 During subsequent discussions relating to the agenda detailed in paragraph 5.3, the meeting agreed to remove Agenda Item 7.

3.3 Ms. McCormick reviewed the proposed timetable of meetings and invited all participants to attend a hospitality gathering on Wednesday evening, 25 January 2006, in the hotel.

4.0 Submitted Papers

4.1 The following working and information papers were presented to IPACG/24 and were available on the IPACG website http://www.faa.gov/ats/ato/ipacg.htm

Paper Number	Agenda Item	Title	Presented by
WP/01 REV 2	1	Proposed Agenda and Timetable	Co-Chairpersons
WP/02	2a	Report on Relevant Outcomes from APANPIRG/16	FAA
WP/03	3	Open Action Items	Co-Chairpersons
WP/04	8	CNS/ATM Planning Chart	FAA
WP/05	3	Fukuoka / Oakland CTA Boundary Reporting	FAA

Paper Number	Agenda Item	Title	Presented by
WP/06	3	Implementation of Reduced Longitudinal Separation Minimum in the NOPAC and CENPAC Airspace Using ADS/CPDLC	JCAB
WP/07 REV	3	US Aeronautical Information Publication (AIP) International Flight Planning Requirement	FAA
WP/08	3	Turbulence Reporting Procedure	FAA
WP/09	3	Ground Earth Station Backup Capabilities	FAA
WP/10 REV2	3	Expanded Implementation of 30/30	FAA
WP/11	3	HF Pre-Flight and SELCAL Checks	FAA
WP/12	3	CPDLC Waypoint Reporting in the Oakland	FAA
WP/13	3	Airport Air Traffic Control Facilities Notification (AFN) Logons	FAA
WP/14	3	Comments from ICAO HQ on Proposal for Amendment of Regional Supplementary Procedures－Doc 7030/4 (Special No. APAC-S 03/10-MID/ASIA/PAC RAC)	FAA
IP/01	2c	Cross-Polar and Russian Trans-East ATS Routes Special Coordination Meeting (SCM) Polar & Russian Trans-East (RTE)	FAA
IP/02	5	RCP Required Communication Performance and Performance-Based Operations Aviation Rulemaking Committee (PARC)	FAA
IP/03	3	Common Air Traffic Flow Management Terminology	FAA & JCAB
IP/04	3	Future Improvement of Japan Civil Aviation Bureau Air Traffic Management (ATMC) and Federal Aviation Administration Air Traffic Control System Command Center (ATCSCC) Information Exchange Capability – Web Conference (including Voice over Internet)	FAA
IP/05	3	Status of Advanced Technologies and Oceanic Procedures Ocean21 Systems Implementation	FAA
IP/06	5	Update on FAA HF Regression Activities	FAA
IP/07	3	FAA's Implementation Strategy for the Implementation of the 50NM Longitudinal Separation Standard based on ADS	FAA
IP/08	3	Utilization of Block Altitudes in the Oakland FIR	FAA

Paper Number	Agenda Item	Title	Presented by
IP/09	3	Cancellation of Airborne Collision Avoidance System/Traffic Collision Avoidance System (ACAS/TCAS) In trail Climb/In trail Descent (ITC/ITD) Procedure	FAA
IP/10	3	Operation Data on ADS 50NM Longitudinal Separation Minimum in the Tokyo FIR	JCAB
IP/11	5	Global Air Traffic Interoperability Program	FAA
IP/12		WITHDRAWN	
IP/13	9	Guidance Material in Regard to Wake Vortex Aspects of A380 Aircraft	ICAO Asia/Pacific Regional Office
IP/14	5	Required Communication Performance (RCP) Concepts-An Introduction	ICAO Asia/Pacific Regional Office
IP/15	9	Draft Document 9859-ICAO Safety Management Manual	ICAO Asia/Pacific Regional Office
IP/16	2a	Funding Arrangements for Regional Airspace Safety Monitoring	ICAO Asia/Pacific Regional Office
IP/17	9	ICAO Language Proficiency Provisions	ICAO Asia/Pacific Regional Office
IP/18	3	RVSM Pre-implementation and Transition in Japan	JCAB
IP/19	3	ADS Waypoint Reporting	JCAB
IP/20	9	FAA Interim Guidance for Airbus A380 Separation	FAA

5.0 Agenda Item 2: Relevant outcomes from other meetings

Report on relevant outcomes from APANPIRG/16

5.1 The FAA reviewed relevant conclusions and decisions from the 16th Meeting of the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/16). These included Conclusion 16/4 (Traffic Sample Data Collection); Conclusion 16/5 (No implementation of reduced separation unless compliant with Annex 11); Conclusion 16/6 (Non provision of safety related data by States); Conclusion 16/10 (Review of ATS Route Catalogue by States); Decision 16/14 (Contingency Plans on ATS Coordination Group Agendas); and Decision 16/16 (Civil Military Coordination).

5.2 It was noted that the new agenda items 4, 6 and 7 were a result of APANPIRG Conclusion 16/10 and Decisions 16/14 and 16/16. The meeting heard concerns voiced and a suggestion was made to eliminate the items on Civil Military Coordination item and ATS Contingency Plans from the agenda. It was suggested the ATS Contingency Plans item be left on the agenda due to the fact that the matter had been discussed at previous meetings. It was agreed upon to leave this item on the agenda for further consideration at the next meeting.

5.3 With regards to Civil Military Coordination, the FAA noted that United States Department of Defense (DoD) is routinely represented at the meetings. Representatives from the DoD noted that there were good relationships between US Forces and Japan Self-Defense Forces and civil aviation authorities, but many current forums did not address issues relating to international airspace. The IPACG could serve as a forum to address these issues. It was further noted that Annex 11 suggests close coordination among States. DoD saw benefit to have input from Japanese defense authorities for this agenda item. It was noted that discussions on military issues had been inherent during past meetings and therefore no separate agenda item was required. After much discussion, the meeting agreed to remove this agenda item.

Funding Arrangements for Regional Airspace Safety Monitoring – ICAO APAC office

5.4 In considering matters relating to funding arrangements for regional airspace safety monitoring, the APANPIRG/16 meeting in August 2005 noted the emphasis placed by the Third Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/3 – June 2005) on addressing how States could best organize and finance the safety monitoring services necessary for the international airspaces in the region, such as were required for the application of reduced vertical separation minimum (RVSM) and reduced horizontal separation.

5.5 APANPIRG/16 observed that the expertise required for safety monitoring activities was not readily available in each State, requiring States to collaborate in the provision of safety services and to work towards establishing suitable mechanisms for the funding of multinational infrastructure and services.

5.6 APANPIRG/16 also noted that the United States had informed ISPACG/19 that the FAA would discontinue funding of the ISPACG Central Reporting Agency (CRA) on behalf of other South Pacific ATS providers at the end of September 2005 and other funding arrangements would be necessary. The Secretariat drew attention to the serious concerns that had been expressed recently by ICAO in respect of the non-availability of RVSM safety monitoring services in the Middle East (MID) Region. This situation in the MID Region had led the Secretary General of ICAO to notify MID States, via State Letter, that unless a concrete action plan was developed by affected States, the withdrawal of RVSM operations from the MID Region would be considered by ICAO. Subsequent actions by MID States had now averted this scenario.

5.7 The matter of the funding of safety monitoring was taken up again by the Directors General of Civil Aviation in the Asia and Pacific Regions at their 42nd Conference held at the Gold Coast, Australia from 26 to 30 September. The Directors General strongly supported the work of RASMAG and adopted Action Item 42/4 urging all Administrations in the Asia Pacific Region to support the initiatives by APANPIRG to devise sustainable funding arrangements.

5.8 Work is continuing in preparation for the ICAO ALLPIRG/5 meeting to be held in Montreal, Canada during March 2006. The matter had been included on the Agenda for ALLPIRG in recognition that issues of multinational funding were global in nature and would be best address via a model that was applicable globally. In this vein, the ICAO Air Transport Bureau was working to develop and propose a fair and equitable global method of cost recovery of the required Regional Monitoring Agency (RMA) infrastructure, for consideration by ALLPIRG/5. It was noted that Agenda Item 5 of the Fifth Meeting of the ALLPIRG/Advisory Group (ALLPIRG/5) to be held at ICAO Headquarters, Montreal, Canada on 23 and 24 March 2006 will include interregional coordination and harmonization.

Cross Polar and Russian Trans-East ATS Routes Special Coordination Meeting (SCM) Polar and Russian Trans-East (RTE)

5.9 At the request of the Russian Federation and the International Air Transport Association (IATA), the International Civil Aviation Organization (ICAO) Asia Pacific Regional Office hosted a Special Coordinating Meeting (SCM) on Cross-Polar and Russian Trans-East (RTE) Routes on 15 and 16 November 2005. Full minutes of the meeting are available on the ICAO website at http://www.icao.int under Regional meetings.

5.10 The Russian Federation has established the Federal Air Navigation Authority, which has the management responsibility for Russian airspace and ATS. Restructuring and implementation activities for the new organization were currently underway. Within Russian airspace this would result in changes to airspace delegation between facilities, and should promote more rapid implementation of service improvements such as RVSM, air ground communications, and 24 hour service availability in the Polar Regions. Because of the effort involved to implement this new organization, Russia would not be able to support a meeting of the Russian American Coordination Group for Air Traffic Control (RACGAT) in the near term, however they were able to commit to continued coordination with the FAA on air traffic flow management (ATFM) and procedural issues associated with the polar region

5.11 Concerns were noted by some meeting participants of the long time since the last meeting of the RACGAT. Ms. McCormick noted that the FAA has stressed the importance of addressing operational issues with the Russians in some forum. It was reported that the Russian Federation had written to the Secretary General of ICAO to express their enthusiasm for the SCM and requested assurance that further meetings would be conducted.

Report of the Joint FANS Interoperability Team (FIT) Meeting

5.12 The action items from previous FIT meetings, both IPACG and ISPACG, were reviewed.

5.13 As has been the custom in the ISPACG FIT, all attendees were offered an opportunity to highlight accomplishments and concerns of the previous year. The meeting congratulated Oakland ARTCC for their successful implementation of the Ocean21 system, the introduction of 30/30 separation and the application of 50NM longitudinal separation.

5.14 The meeting discussed the lack of stability and need for upgrades to the Ground Earth Stations (GES) at some length. Since failure of a single GES could have an immediate degrading effect on the separation minima in use, it was considered critical from both economic and safety points of view that redundancy be provided. It was agreed that the airspace users should try to develop better failure-mode notification and switch-to-backup procedures. Currently a GES failure usually results in failure of data link, with no simple or consistent way for flight crews to switch to a backup GES. It was noted that the MTSAT system does use two satellites and four GES, providing double redundancy.

5.15 Detailed discussions were held on the following subjects, summarized in the full FIT Report. The meeting was advised that all working and information papers and presentations would be posted on the IPACG and ISPACG websites.

a. Methodology for validation of ADS reports
b. JCAB CRA activity
c. HF data link use in the Auckland Oceanic FIR
d. Cruise climb requests
e. CPDLC route clearances
f. Update on failed CPDLC connection requests

g. South Pacific Problem Reports
h. HF data link use for FANS communications
i. AIB CPDLC route clearance
j. HFDL AIB
k. System performance criteria
l. Minimum content requirements for CPDLC waypoint report downlinks
m. MTSAT AMSS program update
n. Report of Data Link Operational Trial
o. Use of predicted altitude in ADS downlink reports
p. Lateral deviation event contracts
q. Flight crew procedures for DATALINK LOST
r. Long-term viability of FANS
s. Data link on the Boeing 787
t. Iridium
u. Weather deviations

5.16 The FANS-1/A Operations Manual (FOM) was amended based on the review and acceptance of 12 proposals, and the FIT agreed to publish the FOM on a semi-annual publication schedule to coincide with the first Aeronautical Information Regulation and Control (AIRAC) date occurring in May and November each year. These were chosen to follow the Spring and Fall FIT meetings.

5.17 The full report of the FIT Meeting, including status of action items and appendices, has been made available on the ISPACG and IPACG web sites.

6. Agenda Item 3: Air Traffic Management (ATM) Issues

6.1 Ms McCormick reviewed the open action items, many of which would be further addressed during the meeting. Those action items not addressed otherwise were:

a. *IP/11-2 - Application of a 10-minute longitudinal separation minimum without the mandatory application of Mach Number*: ICAO advised the meeting that a letter had been received from the Secretary to the Air Navigation Commission stating that if no adverse comments were received, the proposal would go to the Council for approval on 5 Dec 2005.

b. *IP/23-2 - Conduct a study to evaluate the effectiveness of the current airspace/route structures*: The FAA advised the meeting that following implementation of Ocean21, both Anchorage and Oakland ARTCCs had agreed to conduct an internal airspace review. Taking into account resources commitments to implement reductions of horizontal separation and the opening of the JCAB Air Traffic Management Center (ATMC), FAA proposed that development of this plan be postponed until IPACG/26, tentatively planned for May 2007. The airspace users recognized the limitations of FAA and JCAB resources, but expressed that this study and the implementation of user preferred routes (UPRs) could provide the largest cost benefit of any action item underway. One airline representative stated that in one week alone, 68% of their trans-Pacific flights were required to make a technical stop en route for fuel due to the lack of UPRs. It was noted that the increasing cost of fuel makes this effort even more important. FAA noted that they were actively looking at oceanic service improvement initiatives that could be implemented within 2-3 years. The meeting invited airspace users to work together to identify a priority for traffic flows and provide that information to the Co-chairs in order that FAA could begin a smaller scale study focusing on the highest priority.

Status of Advanced Technologies and Oceanic Procedures (ATOP) – Ocean21 System Implementation

6.2 The FAA provided a status update of the Ocean21 system. It was noted that the FAA transitioned on 17 October 2005 from the legacy system to Ocean21 within 6 hours. With the implementation of Ocean21, the FAA significantly reduced the intensive manual processes that limited the ability of controllers to safely handle airspace operator requests for more efficient tracks or altitudes over long oceanic routes. It allowed the FAA to meet international commitments of reducing aircraft separation standards, thereby dramatically increasing operational efficiency without any loss of safety.

6.3 Anchorage ARTCC is scheduled for Initial Operating Capabilities (IOC) of Ocean21 in one sector in March 2006. Anchorage plans to implement Ocean21 in the rest of their flight information region (FIR) by 2007.

6.4 Oakland ARTCC thanked everyone for their support resulting in successful implementation. A representative from the International Federation of Air Traffic Controllers Associations (IFATCA) expressed that the workforce is looking forward to the introduction of planned software upgrades. It was noted that controller efficiency had increased by at least 10% and would be expected to increase by 50%.

Fukuoka / Oakland CTA Boundary Reporting

6.5 At IPACG/21 Tokyo ACC presented several recommendations that would eliminate the confusion regarding whether pilots should report the FIR or the control area (CTA) boundary. One suggestion was to add two additional fixes along the CTA boundary and require flights that transit the CTA to file flight plan over the named waypoints. This would also be a requirement for any Pacific Organized Track System (PACOTS) tracks that transit the CTA.

6.6 Some airspace users were concerned as to what effect forcing a PACOTS track over one of the named fixes would have on the efficiency of the track. Oakland ARTCC and Tokyo ACC agreed to add the new fixes and then study what, if any, the effect might be in regard to PACOTS tracks.

6.7 FAA presented the meeting with the results of their study. Since 12 May 2005, the winds had been such that the westbound PACOTS routes did not cross through the CTA in the vicinity of the CTA fixes. Because of this, Oakland ARTCC was not able to collect data to make track comparisons with and without the forced use of the CTA fixes. Oakland ARTCC generated some simulated tracks with and without the use of the CTA fixes and the impact to the routes was minimal (on the order of plus/minus 3 minutes). Without the benefit of having actual track data, Oakland ARTCC could not make an operational recommendation.

6.8 Oakland ARTCC advised that they did not have an operational concern with operators reporting the CTA boundary versus the FIR boundary, however agreed to support adding additional fixes at the CTA boundary if this would benefit JCAB ATMC. Discussions between JCAB and FAA representatives continued during the meeting and it was agreed that FAA would not continue the study; however, JCAB offered to conduct a similar study based on information of published west-bound tracks by Oakland ARTCC and coordinate their study with FAA. In addition, JCAB offered to study other options which would be operationally most practicable and effective for ATC and aircraft operators, including the possibility of aligning the FIR and CTA boundaries.

Turbulence Reporting Procedure

6.9 Airspace operators, as well as FAA and other ATS providers are expected to follow ICAO standards and recommended practices (SARPs) and Federal Meteorological Handbook No. 12 United States

Meteorological Codes and Coding Practices (FMH-12) for relay of turbulence and other weather information. These manuals use standard phraseology for the transmission of manual and associated controller pilot data link communication (CPDLC) messages to describe turbulence as ***light***, ***moderate*** or ***severe.***

6.10 It had been noted that some oceanic airspace operators used non-standard phraseology and associated CPDLC free text message formats to relay turbulence and other pilot reported weather information to their airline operations centers. It was suggested that the current codes for reporting turbulence used by some operators were believed to exceed the ICAO standard. However, because this phraseology and associated messages are not SARPs-compliant, other operators and ATS providers can misinterpret, lose, delay or otherwise not appropriately relay valuable turbulence and/or weather information.

6.11 The meeting was informed that there had been extensive discussion and progress over the years in past meetings of the ICAO Meteorological Data Link Study Group (METLINKSG) regarding the topic of reporting turbulence information, and that the topic was on the agenda for the 9th Meeting of the METLINKSG, which would be held in July 2006.

6.12 It was understood that the airlines wanted more accurate information, however the FAA's primary concern was that the Ocean21 system could not accept the messages as sent, resulting in increased controller workload to manually input the turbulence reports. JCAB complies with ICAO SARPs, so additional investment would not be justified unless changes to the format of turbulence messages were agreed for global application. The meeting agreed that this was outside the scope of IPACG to resolve, and that airlines' concerns should be brought to the attention of the METLINK SG.

Implementation of Reduced Longitudinal Separation Minima in the North Pacific (NOPAC) and Central Pacific (CENPAC) Airspace using Automatic Dependent Surveillance (ADS)/CPDLC

6.13 In June 2004, JCAB advised the 21st Meeting of IPACG that the Multifunctional Transport Satellite (MTSAT) would need to be operational in order for Tokyo FIR to apply 50NM longitudinal separation minimum between aircraft at cruise.

6.14 MTSAT-1R was lunched successfully on 26 February 2005, and had been expected to be operational by December 2005. However, it had become unavoidable to reschedule the commencement of MTSAT operation from the original plan to 2006 in order to complete the evaluation of total performance of the MTSAT system.

6.15 JCAB introduced 50NM longitudinal separation minimum during step climb/descent using ADS/CPDLC on two NOPAC routes, R220 and R580, on 11 April 2005. This procedure would be applied to other routes beginning 1 February 2006 in the oceanic airspace within Tokyo FIR. JCAB plans to apply 50NM longitudinal separation minimum between aircraft at cruise using ADS/CPDLC in the oceanic airspace of Fukuoka FIR beginning in mid 2006. It was considered that, following the introduction of 50NM longitudinal separation minimum at cruise, more aircraft would have the opportunity to select optimum levels.

Note: Tokyo and Naha FIR would be consolidated to Fukuoka FIR on 16 February 2006.

6.16 JCAB intended to introduce a seamless application of 50NM longitudinal separation minimum, which included ADS hand-over, following appropriate coordination between Fukuoka FIR and Anchorage and Oakland Oceanic FIRs.

6.17 The JCAB ATMC was inaugurated and took over oceanic ATC services from Tokyo ACC on 8 December 2005. Since then, the ATMC has applied ADS 50nm longitudinal separation minimum for step climb/descent. Data was collected for step climbs/descents which were applied between ADS aircraft flying on R220 or R580 from 1 November to 31 December 2005.

6.18 The meeting was advised that a total of 43 applications of 50M longitudinal separation were conducted during the period. Fifty-six (56) percent of the total applications were less than 10 minutes, which could not have been accomplished without applying ADS longitudinal separation. The shortest time separation was 4 minutes. The minimum ADS distance was 50nm. It was noted that 4 minutes was a huge improvement when compared to the past.

6.19 The FAA congratulated JCAB on the successful transition to the ATMC and expressed their appreciation for the information obtained from the data collection.

FAA's Strategy for the Implementation of the 50NM Longitudinal Separation Standard based on ADS

6.20 The FAA provided a status update on their implementation of the 50NM longitudinal separation standard based on ADS in the Oakland and Anchorage FIRs. Oakland ARTCC had begun applying the 50NM longitudinal standard based on ADS in a mixed environment between appropriately equipped aircraft. Oakland ARTCC had not seen any negative impact to the controller workforce or its customers due to the current strategy. Anchorage ARTCC is expected to follow the strategy of a mixed environment application once they begin utilizing the Ocean21 system operationally.

Utilization of Block Altitudes in the Oakland FIR

6.21 In response to recent questions as to how block altitudes were being applied, Oakland ARTCC presented information. Block altitudes were used predominantly to increase fuel efficiency. Block altitude clearances, when applied correctly, provided improved airspace efficiency to the airspace customers. IFATCA emphasized their support for block altitudes and expressed support for future use of block altitudes in adjacent FIRs.

Cancellation of Airborne Collision Avoidance System/Traffic Collision Avoidance System (ACAS/TCAS) In trail Climb/In trail Descent (ITC/ITD) Procedure

6.22 The FAA reported that the in trail climb (ITC) and in trail descent (ITD) operational test procedures that have been in effect in US controlled Pacific oceanic airspace for nearly a decade would be cancelled on 16 February 2006.

6.23 These procedures promised to provide needed benefits, but for various reasons were seldom used. However, the FAA would continue to evaluate the use of other technologies to better support similar procedures in oceanic airspace.

Expanded Implementation of 30NM lateral and 30NM longitudinal separation (30/30)

6.24 The FAA announced that on 22 December 2005, operational trials commenced for application of 30/30 in Oakland Oceanic Control Sector 3 (OC3) between North America and Australasia for RNP-4 approved aircraft. A description of the communications, navigation and surveillance (CNS) requirements needed to participate in the operational trials had been made available at http://www.faa.gov/ats/ato/cns.htm

6.25 The FAA noted that it intended to provide ADS based separation standards (30/30, 50/50) in a mixed environment.

Air Traffic Data Exchange Agreement Issues

6.26 Representatives from FAA and JCAB met to discuss issues related to an air traffic data exchange agreement and JCAB's proposed research on "Air Traffic Data Exchange between U.S. and Japan and Mechanism for Air Traffic Flow Management (ATFM) in North/Central Pacific Airspace based on Information Sharing".

6.27 The participants agreed that JCAB's planned research study on data exchange and ATFM would help to realize the goal of data exchange and allow for additional cooperation related to ATFM between FAA and JCAB. JCAB expressed interest in starting the data exchange with the FAA in JCAB's FY2009.

6.28 JCAB named Mr. Oya and FAA named Mr. Metts as points-of-contact (POCs) for drafting and coordinating a data exchange agreement Annex. FAA and JCAB had discussed this matter and exchanged a draft agreement Annex in the past. It was agreed that Mr. Oya would re-draft the Annex and coordinate with the FAA through Mr. Metts prior to IPACG/25.

CPDLC and ADS Waypoint Reporting

6.29 Oakland ARTCC advised the meeting that they no longer require CPDLC waypoint reports from aircraft that have active ADS contracts. Except for the provision in the FANS Operations Manual that calls for CPDLC position reports at an FIR boundary, Oakland ARTCC no longer wants aircraft to duplicate ADS waypoint reporting with CPDLC waypoint reports. The redundant reports are rejected by the Ocean21 system as duplicates and cause additional workload for the controller.

6.30 JCAB explained to the meeting that Japan's HF radio operators do not receive ADS position information from ADS waypoint reporting aircraft because this procedure is not supported by their system like the present CPDLC reports. For this reason, the HF radio operators may face difficulties in handling pilot reports, in particular, turbulence information.

6.31 JCAB reported that they intend to replace CPDLC position reporting with ADS waypoint reporting after completion of software modifications to the Oceanic Data Processing (ODP) system, and were preparing for aircraft situation displays of ADS waypoints for HF radio operators. The completion date for these programs was expected by the end of FY2007.

6.32 JCAB expressed the desire that ADS waypoint reporting be implemented in Fukuoka FIR, Anchorage and Oakland Oceanic FIRs at the same time in order to eliminate pilot confusion or misunderstanding regarding position reporting procedures.

6.33 An airline representative stated that dual CPDLC and ADS reporting has been in effect for a long time and that global standardization is required. It was requested that JCAB consider eliminating the requirement for CPDLC reports as soon as possible.

US Aeronautical Information Publication (AIP) International Flight Planning Requirement

6.34 FAA informed the meeting that problems have arisen over confusion on filing international flight plans, and in some cases, relevant flight plans have been deleted from the US domestic air traffic control automation system. Detailed information on the requirements can be found in the US Aeronautical Information Publication (AIP), GEN 3.4 *Communication Service*, paragraph 4.3:

6.35 International flight plans into domestic US airspace (excluding Alaska) should ONLY be sent to the FIRST US domestic ARTCC. Controllers will then enter it into the US domestic system and forward the flight plan to subsequent US domestic ARTCCs. Flights entering Anchorage FIR are required to send flight plans to Anchorage ARTCC and to the first US domestic ARTCC.

6.36 Airlines and airspace users were urged to note the information provided and comply with the requirements of the US AIP

Ground Earth Station Backup Capabilities

6.37 Oakland ARTCC presented information on ground earth station (GES) and data link service provider (DSP) backup capabilities as the relate to flight management system requirements. During the months of September and October there were numerous outages of the Perth (POR1) GES. The outages experienced by Oakland ARTCC resulted in a complete loss of data link capabilities. Oakland ARTCC attempted to clarify what back up coverage was available when a satellite, GES or service provider incurs an outage.

6.38 Brief answers were provided by SITA. SITA's GES has had issues, and upgrades to the Perth GES were completed in November 2005. Another upgrade was planned for mid 2006 to resolve many of the issues observed. SITA advised that the backup GES for Perth was Yamaguchi, operated by KDDI. However, KDDI had announced that Yamaguchi would not be available for aeronautical use after 31 March 2006.

6.39 SITA suggested that problems in which the backup GES systems were not acquired could be caused by avionics issues, limitations of the aeronautical mobile satellite systems protocols for certain GES failure conditions, uplink routing protocols, or a combination of those. Technical discussion on this matter was continued during the FIT meeting.

HF Pre-Flight and SELCAL Check

6.40 Oakland ARTCC provided an update on an open action item to review HF pre-flight and SELCAL procedures as they related to operations within the Oakland FIR. With regards to HF pre-flight checks, it is the responsibility of dispatch to ensure compliance with the Minimum Equipment List for a given airspace before an aircraft departs. Oakland ARTCC does not have an operational requirement that would mandate an HF pre-flight check.

6.41 JCAB reported that they were in the process of performing an operational evaluation of data link using HF as backup. Before entering data link airspace, aircraft are required to check HF operation and SELCAL. This information has been published in AIC Japan.

Airport Air Traffic Control Facilities Notification (AFN) Logon

6.42 The FAA presented information on the operational issues that arise due to aircraft establishing data link connections with Oakland ARTCC (KZAK) prior to departure. The FAA explained that when an aircraft sends the initial AFN message, the Ocean21 system establishes both a CPDLC and ADS connection. The Ocean21 system begins extrapolating an aircraft's position once a data link connection is established. This is done based on the filed flight plan. When data link connections are established well before the aircraft departs, an extrapolated track can appear to reach the KZAK boundary even though the aircraft has not yet departed. This can create additional controller workload to determine the status/location of the aircraft.

6.43 The FAA therefore requested that aircraft not log on to data link until airborne when departing an airport outside of the Oakland FIR, when the Oakland FIR will be the first data authority. The FAA noted that this is not known to be an issue at New York ARTCC.

6.44 Further discussions regarding this matter continued during the FIT meeting. Although there may be a future Ocean21 software upgrade to resolve this problem, it was agreed that the Oakland ARTCC would submit a Request for Change (RFC) to the FANS Operations Manual to provide a near-term solution.

Common Air Traffic Flow Management (ATFM) Terminology

6.45 FAA expressed gratitude to JCAB for their cooperation in the development of common air traffic flow management (ATFM) terminology. The meeting recalled that IPACG/21 agreed to develop common terminology for ATFM communications. IPACG/22 supported the formation of a Task Force to address this issue. Subsequently, Task Force co-chairs Mr. Yoshinori Suzuki from JCAB and Mr. Rick Humphreys from FAA were named. The operation of the Task Force was outlined at IPACG/23. The meeting noted that Mr. Noritoshi Suzuki from JCAB Air Traffic Management Center (ATMC) took over the role of JCAB co-chair to the ATFM Common Terminology Task Force.

6.46 The FAA advised the meeting that their ATFM terminology was located in several documents including: FAA Order 7210.3, *Facility Operation and Administration*; FAA Air Traffic Control System Command Center (ATCSCC) Standard Operating Procedures; and FAA Order 7110.65, *Air Traffic Control*.

6.47 JCAB's ATFM terminology was similarly located in several documents including: JCAB Air Traffic Control Handbook and JCAB ATFMC Operation Procedures.

6.48 The Multi-Agency Air Traffic Services Procedures Coordination Group (MAPCOG) ATFM Task Force produced "Phraseology for the Exchange of ATFM Messages Handbook" (dated February 2003) and a list of ATFM terms.

6.49 The meeting noted that the Task Force had agreed to use the above-mentioned MAPCOG Handbook and "EUROCONTROL/Russian Federation ATFM Terms, Abbreviations and Phraseology" as the basis of future work of the Task Force. Co-chairs of the Task Force will evaluate the differences and similarity of the usage of ATFM terminology/phraseology in their organization against the basis. FAA and JCAB will exchange the findings and report the progress to the next meeting.

6.50 The representative from ICAO thanked the FAA and JCAB for their work in this area and expressed ICAO's support for this initiative.

RVSM Pre-implementation and Transition in Japan

6.51 JCAB reported to the meeting that RVSM was implemented successfully in the Japanese domestic airspace at 1900 UTC on 29 September 2005 in conjunction with the implementation in the Republic of Korea. The meeting was informed of various activities undertaken by JCAB in relation to pre-implementation and transition.

6.52 JCAB advised that a more detailed study comparing pre- and post-operations for October-December 2004 and the same three months of 2005 was conducted with close cooperation of aircraft

operators, and would be summarized by early February. This summary would be presented at the next ICAO RVSM Task Force meeting scheduled for 27 February-1 March 2006.

6.53 FAA congratulated JCAB on the successful implementation of RVSM.

Comments from ICAO HQ on the Proposal for Amendment of Regional Supplementary Procedures – Doc 7030/4 (Special No. APAC-S 03/10-MID/ASIA/PAC/RAC)

6.54 In regards to the proposed amendment developed for loss of communications, the FAA informed the meeting that comments had been received from the ICAO APAC Office and ICAO Headquarters.

6.55 The information received indicated that New Zealand had identified a conflict between PANS-ATM and the proposed amendment. It was further noted that the procedures for air-ground communication failure were a separate set of procedures from those for in-flight contingencies in oceanic airspace. The proposal to incorporate the offset for air-ground communication failure would change the way that ICAO has traditionally dealt with communications failure.

6.56 It was requested that the proposing States (Australia, Fiji, France, Japan, New Zealand, Philippines and United States) reconcile the proposed amendment with PANS-ATM.

6.57 An ad hoc working group of experts convened to consider ICAO's comments and propose a resolution. The draft response would be considered during the ISPACG/20 meeting on 30 January – 1 February 2006, and further changes would be coordinated with States following that meeting.

Future Improvement of Japan Civil Aviation Bureau Air Traffic Management (ATMC) and Federal Aviation Administration Air Traffic Control System Command Center (ATCSCC) Information Exchange Capability - Web Conference (including Voice over Internet)

6.58 The FAA reported to the meeting that communication methods beyond simple verbal communication had become more important in recent years. The ATCSCC, Nav Canada National Operations Centre (NOC), and EUROCONTROL Central Flow Management Unit (CFMU) had conducted an exercise teleconference using web conference technology (including Voice over the Internet) hosted by EUROCONTROL in early 2005.

6.59 The FAA and JCAB agreed at the last meeting to conduct a test of the web conferencing capability. The ATCSCC installed the web conference system at their facility in early summer 2005. This system was configured to use FAA's intra-network for the secure communication as required by the FAA's security policy. This configuration would not allow non-FAA users to access via the Internet which is the preferred access method for many non-FAA users including JCAB/ATMC.

6.60 Both ATCSCC and ATMC noted that security issues had to be overcome prior to conducting a test conference. These security issues should be resolved by the end of March 2006, after which time the ATMC would be willing to conduct a test web conference with the FAA.

7.0 Agenda Item 4: Review of relevant route requirements in the Asia/Pacific ATS Routes Catalogue

7.1 There was no discussion on this agenda item. JCAB and FAA agreed that this would be a standing agenda item to be addressed at future meetings.

8.0 Agenda Item 5: Communication Navigation Surveillance (CNS) issues

Update on FAA HF Regression Activities

8.1 The FAA informed the meeting that they had made little progress in furthering HF regression since the last meeting. There were significant technical and operational issues to be resolved if HF regression was to become a reality. The primary issue is what technologies or mix of technologies would be sufficient to meet the communication performance criteria necessary to operate in a particular airspace.

8.2 During the past year, a communications working group under the auspices of the Performance Based Aviation Rulemaking Committee (PARC) was formed in order to formulate a definition for required communications performance (RCP). The intent was to review the outcomes of their work and then define technology independent performance criteria for operations in a particular airspace, including, oceanic airspace.

Global Air Traffic Interoperability Program

8.3 The FAA provided information on the Global Air Traffic Interoperability (GATI) Program. The GATI program is designed to help promote safe, affordable, and rapidly implemented innovations in next-generation ATM. To this end, the objectives of GATI are to:

- Demonstrate near-term improvements in ATM related to capacity, efficiency, noise, and emissions
- Foster collaboration among North American, European, and Asia–Pacific air navigation service providers and airlines for global interoperability
- Test concepts for future performance-based operations that can dramatically increase global airspace capacity
- Provide a focusing program framework for the practical implementation of the emerging Joint Program Development Office/Next Generation Air Transportation System and European Single European Sky ATM Research (SESAR) plans

8.4 The operational benefits of GATI would be derived from practical, low-risk, near-term implementation of concepts that utilize existing and expected future aircraft capabilities. These near-term concepts directly support capabilities required to meet future capacity needs.

8.5 Three near-term operational trials are currently envisaged under the FAA GATI program. The emphasis for these trials is placed on development of innovative near-term concepts that can be globally accepted and coordinated internationally for maximum interoperability. The initial trials that would illustrate advanced operations on oceanic routes include the following.

a. **Oceanic Tailored Arrivals** trials would demonstrate means of planning, communicating, and flying highly-efficient arrival trajectories from cruise altitude to the runway threshold. These strategic, *trajectory-oriented*, arrival solutions were designed to satisfy ATM constraints associated with separation, spacing, and sequencing, while allowing pilots to rely upon the flight management system to manage and execute continuous, minimum fuel, descent profiles.

b. **ADS-B Enabled In-Trail Procedures (ITP)** operational trials would demonstrate non-radar procedures for ADS-B enabled in-trail climb-through and descend-through maneuvers to attain more optimum altitudes. Initial benefits analyses indicated that

significant fuel savings (and in some regions, an increase in high-value cargo) could be obtained by airlines that chose to equip with an ADS-B receiver and ITP decision-support software.

c. **Oceanic Waypoint Traffic Management** operational trials would demonstrate initial four dimension (4D) trajectory traffic management implementation using waypoint scheduled times of arrival for oceanic entry and exit fixes. Enhanced aircraft sequencing and spacing at oceanic entry and exit points would lead to increase track loading efficiency and predictability.

8.6 The vision for GATI program is to execute the three proposed flight trials in either the Atlantic and/or Pacific regions within the next 18 to 24 months.

Required Communication Performance (RCP) Concepts – An Introduction

8.7 ICAO provided introductory material to the meeting in respect of RCP concepts. In order to meet the demands on airspace capacity and operational efficiency, operational communication capability is increasingly playing an essential role in ATM using a mixture of data and voice communication. For example, data link can provide for integration of ATM functional capabilities on the aircraft and at the ATS units, direct controller-pilot communications enabling user-preferred and dynamic rerouting and intervention capabilities in reduced separation environments where alternative communications are more cumbersome.

8.8 The RCP concept provides a means to ensure the acceptable performance of communications within a complete ATM system and also assesses the need for objective operational criteria, in the form of an RCP type, encompassing operational communication transactions taking into account human interactions, procedures, and environmental characteristics.

8.9 The development of SARPs, procedures and guidance material relating to the use of RCP was completed under the auspices of the ICAO Operational Data Link Panel (OPLINK). An RCP type is specified by the value for the communication transaction time (round trip, in seconds) associated with the ATM function, e.g. RCP400. Each RCP type denotes values for the maximum time for the completion of the operational communication transaction, continuity, availability, and integrity applicable to the most stringent operational communication transaction supporting an ATM function. The OPLINK Panel recommended provisions for RCP in Annex 6 and 11, PANS-ATM, and provided an ICAO *Manual on Required Communication Performance* to be published as a matter of urgency.

8.10 The following are examples of RCP types under consideration:

- RCP 10 would be used for controller intervention capability supporting separation assurance in a 5 NM radius environment.

- RCP 60 - In combination with the RCP 10 in a 5 NM radius environment, RCP 60 may be applied to routine communications on a data link system to offload the voice communication system.

- RCP 120 would be used for controller intervention capability supporting separation assurance in a 15 NM radius separation environment.

- RCP 240 would be used for controller intervention capability supporting separation assurance in a 30/30 separation environment.

- RCP 400 would be used for controller intervention capability supporting separation assurance in current environments where separations are greater than 30/30 and alternative technologies are planned for providing normal means of communication, e.g., Iridium voice or HF data link in lieu of HF voice**.**

8.11 The meeting was alerted to the conceptual similarities between RNP and RCP, noting ICAO's philosophy of pursuing Required Total Systems Performance (RTSP) via RNP, RCP and Required Surveillance Performance (RSP) methodologies. The meeting agreed that these issues were best dealt with by the relevant expert ICAO Panels and would await further information in due course

Required Communication Performance (RCP) and Performance-Based Operations Aviation Rulemaking Committee (PARC)

8.12 The FAA provided further information to complement the information provided by ICAO.

8.13 The FAA has committed to move toward a performance-based air transportation system. To support this commitment, the PARC developed concepts and a *Roadmap on Performance-Based Navigation*, which was based on concepts of area navigation (RNAV) and RNP. RNAV and RNP implementations have proven beneficial and implementations were continuing to expand throughout the U.S. National Airspace System (NAS).

8.14 Work was underway within the PARC's Communication Working Group (CWG) to support the FAA's commitment to develop concepts and a *Roadmap on Performance-Based Communications*.

8.15 Since it was based on ICAO material, the performance-based communications approach was intended to provide a *global* standard for design, implementation and related assessments of the "suitability" of, for example, use of the INMARSAT and Iridium satellites, high frequency data link (HFDL), and the Aircraft Communications Addressing and Reporting System (ACARS) based data link services as the "preferred" means of ATC communications in reduced separation oceanic and remote environments while at the same time regressing HF voice communications.

8.16 With regards to future applications of performance-based communication approaches, it was expected that the aircraft fleet would become more diverse with anticipated increases in regional jets and point-to-point operations. The demands on air transportation are expected to increase. It was further anticipated that data communication technologies would be exploited to enhance flight management and ATM integration, minimize human error, and revise mitigation strategies, which currently placed operating constraints on our current systems, e.g., large separation standards.

8.17 The PARC CWG would continue its work in 2006 to develop the *Roadmap on Performance-Based Communications*. PARC CWG's next meeting was scheduled for 14-16 February 2006. Tom Kraft (tom.kraft@faa.gov) or Arnold Oldach (aoldach@rockwellcollins.com) could provide more information related to this activity. More information would be provided to future IPACG meetings.

9.0 Agenda Item 9: Other Business

Guidance Material in Regard to Wake Vortex Aspects of A380 Aircraft

9.1 As the new Airbus A380 large aircraft commenced regional demonstration flights from late 2005, ICAO had received a number of requests from States in respect of the wake turbulence separation minima to be applied. ICAO State Letter AP108/05 (ATM) dated 3 November 2005 had been transmitted in this respect, advising caution in respect of wake turbulence spacing with the A380.

9.2 On 10 November 2005, ICAO State Letter AP111/05 (ATM) was transmitted by the Regional Office in respect of this issue. In view of the size/weight of the aircraft, an ad hoc group of experts under the auspices of the FAA, EUROCONTROL, the Joint Aviation Authorities (JAA) and the manufacturer was examining the wake turbulence aspects of the aircraft in comparison with other large aircraft. The final report of the working group was expected to be available in early 2006.

9.3 In the meantime, analyses and flight test data available to the group had raised concerns about horizontal and vertical wake turbulence spacing criteria for approach, landing, departure, and en route operations of the A380 relative to other aircraft. Current data analyses indicated that A380 wake vortices would descend further and be significantly stronger at 300 m (1 000 ft) below the generation altitude than for other aircraft in the heavy wake turbulence category. On rare occasions, A380 wake vortices may descend 600 m (2 000 ft) and possibly pose a passenger comfort issue, but not a hazard. It was not yet clear what level of hazard A380 wake vortices posed at 300 m (1 000 ft) to other aircraft. ICAO guidance was presented as follows:

1. Departure spacing:

a) one additional minute to be added to all separations listed in *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444), paragraph 5.8, when an A380 is the leading aircraft;

b) one additional minute to be added to the separation in PANS-ATM, paragraph 5.8.5.

2. Horizontal spacing:

a) where both aircraft are established on final approach, 10 NM between an A380 and any other following aircraft;

b) 15 NM minimum radar spacing for all other phases of flight, including en route, between an A380 and all other aircraft operating directly behind at the same altitude or less than 300 m (1 000 ft) below. *(See also paragraph 3 below.)*

3. Vertical spacing:

Vertical spacing guidance would not be completed for several months. There were indications, however, from the initial analysis of data that wake vortex from an A380 may be encountered by aircraft flying 300 m (1 000 ft) below at greater strengths than from current aircraft of the heavy wake turbulence category. Because it had not yet been possible to establish the level of hazard associated with these wake vortices, offset tracks or additional vertical spacing were advised until the final vertical spacing guidance had been established.

9.4 States concerned may wish to further enquire with the State of Manufacture and/or the aircraft manufacturer for information on latest wake turbulence data in order to facilitate consideration of these issues.

9.5 The meeting was informed that on 13 August 2005 an incident involving wake vortex was reported to Shannon Operations Management through the Irish Aviation Authority's Mandatory Occurrence Reporting (MOR) scheme. The report indicated that a B757 – 200 series aircraft had experienced a violent and uncontrollable roll of 45° accompanied by a 400 feet loss of altitude caused, in the pilot's opinion, by the wake of a preceding aircraft, an Airbus A345. A summary of this incident was reported to the Forty Seventh meeting of the European Air Navigation Planning Group (EANPG/47) in December 2005.

9.6 In its review, EANPG/47 noted that in-trail climbs were a normal action used by air traffic controllers in the management and organization of air traffic and that, at the time of the incident, the separation between the aircraft was in excess of the separation standard used by air traffic control. The Group also noted the violent nature of the wake turbulence encounter at cruise altitude and recalled the anecdotal information related to wake turbulence that had been presented in the context of the implementation of RVSM.

9.7 In recognition of potential global concerns in this regard, EANPG formulated Conclusion 47/5 inviting EANPG States to note the information concerning the above mentioned wake turbulence incident and requested the wide dissemination of information on the potential severity of such incidents. In order to determine the appropriate course of action to be taken in relation to wake vortex encounters, the ICAO EUR/NAT Regional Office requested that all wake turbulence related incidents in EANPG States be reported to the EUR/NAT Regional Office.

FAA Interim Guidance for Airbus A380 Separation

9.8 The FAA noted that because an A388 was scheduled to operate in US-controlled oceanic/offshore airspace earlier this month, FAA had published interim guidance in FAA Notice 7110.435, in keeping with ICAO recommendations. Additionally, FAA requested that Airbus flight planners notify FAA whenever an A388 would transit US controlled airspace so that special handing could be arranged until more permanent guidance is established and documented. The interim procedures would be applied in oceanic airspace.

9.9 The following procedures were used for the A388 flights that transited New York oceanic and San Juan offshore airspace on 10 and 16 January 2006. Airbus flight planners worked closely with the US ATS providers and no problems were noted.

a. Separate aircraft operating directly behind or directly behind and less than 2,000 feet below an A380 by 15 miles.

b. Apply 2,000 feet vertical separation below an A380.

c. Issue wake turbulence cautionary advisories and the position, altitude if known, and direction of flight of the A380.

d. *TERMINAL*. Separate all aircraft landing behind the A380 aircraft on the same runway, or aircraft making a touch-and-go, stop-and-go, or low approach by ensuring all aircraft that follow the A380 shall be no closer than 10 miles when the A380 is at the threshold.

e. *TERMINAL*. When applying wake turbulence separation criteria for terminal operations that are defined in minutes, add 1 minute to the separation standard for an A380.

9.10 FAA would continue to work with international partners to develop and publish standards and procedures to support A388 operations in oceanic, en route, terminal and surface ATC domains.

Presentation on A380 Wake Vortex (Airbus)

9.11 A representative from Airbus presented information which addressed current rules for separation minima based on aircraft minimum take off weight categories. An international group was established in 2003 to develop standards by early 2006, prior to the commencement of A380 operations.

9.12 Studies concluded that there was a high scatter for A380 and B747 aircraft. The wake for the A380 was slightly higher than for the B747, but no demonstration had concluded that the B747 was the limit to the "heavy" category. It was noted that Airbus disagreed with the ICAO recommendations.

9.13 Further studies were underway in France and Germany with B747, B777 and A380 in sequence, and with the A320 following the A380. The outcomes were being analyzed, but it was anticipated that the A380 could be demonstrated to be safely operated with the existing separation standards.

9.14 ICAO expressed appreciation for the work of Airbus in their studies of A380 wake vortex and expressed that they would like to see results of this study as soon as they are available.

Draft Document 9859 – ICAO Safety Management Manual

9.15 The ICAO representative informed the meeting that although safety management provisions had been introduced into Annex 11 some years ago, ICAO experienced some delays in publishing an appropriate *Manual of Safety Management for ATS*. A draft ATS Manual was eventually presented to the 11th Air Navigation Conference (22 September – 3 October 2003) and was circulated electronically as a final draft document.

9.16 Subsequently, in light of the expansion of provisions for safety management systems in other areas in addition to ATS, in particular Annex 14 – *Aerodromes* and Annex 6 – *Operation of Aircraft*, ICAO pursued the philosophy of a combined safety management manual, rather than a series of separate manuals addressing separate ICAO Annexes.

9.17 The meeting was advised that, with effect from mid October 2005, the draft *ICAO Safety Management Manual* (SMM, Doc 9859-AN/460), containing combined safety management provisions, had been placed on the internal ICAO web and was authorized for release to State civil aviation administrations as a final draft document, subject to a disclaimer noting that the document was still a "work in progress". Electronic copies of the draft Manual (comprising approximately 380 pages) would be available to States from the Regional Office on request. The meeting noted that the combined SMM superseded the existing draft *Manual of Safety Management for ATS* which would no longer be circulated.

9.18 JCAB informed the meeting that the draft SMM was being translated into Japanese in order that common information could be made available to all affected aviation authorities and organizations.

9.19 IATA noted that their operational safety audit required all airlines to be in compliance with all provisions of the Manual. Some provisions may not be compulsory requirements in the view of ICAO; however, they would be compulsory by IATA.

ICAO Language Proficiency Provisions

9.20 ICAO, while updating the meeting in respect of the ICAO language proficiency requirements, noted that as of 5 March 2008, pilots, aeronautical station (radio) operators and air traffic controllers shall demonstrate the ability to speak and understand the language used for radiotelephony communications to the level specified in the language proficiency requirements of ICAO documentation.

9.21 APANPIRG/16 had recognized the high stakes involved in implementing the language proficiency provisions, with particular regard to the potential loss of careers of industry participants who, although having worked operationally for many years, were unable to reach the Level 4 requirements for operational staff. In order to establish the magnitude of regional difficulties being experienced in this respect, APANPIRG/16 endorsed Conclusion 16/21 requiring the Regional Office to conduct a survey of Asia/Pacific States in order to ascertain States' circumstances in respect of compliance by March 2008 with ICAO language proficiency provisions.

9.22 Following the lead set by APANPIRG, ICAO Headquarters implemented a survey to ascertain the status of implementation of language proficiency provisions, to be conducted globally during the first quarter 2006. A survey template had been jointly developed by the Asia/Pacific Regional Office and ICAO Headquarters in order to assist the assessment of language proficiency implementation within States. The template included core items, to which additional information could be added to reflect the specific circumstances of each State.

9.23 A State Letter [Ref.: T3/9.4 – AP128/05 (ATM)] was issued by the Regional Office on 7 December 2005 requesting the participation of States in the conduct of the survey, with responses to be received at the Regional Office by 24 February 2006. The survey was addressed to civil aviation authorities, air navigation service providers, air operators (airlines) and training institutions that were, or would be, involved in English language proficiency testing and training.

9.24 States were invited to participate in the survey, noting that a full and comprehensive response to the survey would provide useful information with which to determine the most suitable actions to assist State compliance with the language proficiency provisions. It was anticipated that the survey would also highlight difficulties encountered so far in implementing these provisions. All responses to the survey would be treated confidentially and findings of the respective regional surveys would be summarized for consideration by the Air Navigation Commission (ANC) and ICAO Council during the second quarter of 2006.

9.25 A meeting of the Proficiency Requirements in Common English Study Group (PRICESG) of ICAO was held in Montreal during September 2005. The purpose of the meeting was to continue the development of the content of a training aid to assist States in identifying and distinguishing the different operational levels of the language rating scale, using recorded speech samples of ATS operational exchanges.

9.26 The meeting recognized that although further development would be beneficial, the training aid in its current format provided sufficient and valuable enough information to justify the release of a first version of the training aid. Accordingly, the PRICESG expected to release a first version of the training aid to States by the end of January 2006.

9.27 The PRICESG, in conjunction with ICAO HQ, have identified a number of lessons learned during the last 12 months in relation to the language proficiency provisions and their implementation. Additionally, some matters described in Doc 9835 needed to be clarified, for example test design, test delivery, rating and competency standards for personnel involved in the different testing activities and so

forth.

9.28 A work plan had been established at ICAO HQ to address and incorporate these and other issues in an amendment to Doc 9835. Issues identified as a result of the global language proficiency survey activities mentioned above would also be considered for inclusion in the amendment to the Manual.

10.0 Closing of the Meeting

Next Meeting

10.1 Mr. Kunitake announced that the 25th Meeting of IPACG would be hosted by the JCAB in Tokyo, Japan on 23-27 October 2006.

Closing

10.2 In closing, Mr. Kunitake and Ms. McCormick thanked all participants for a very successful meeting. Mr. Kunitake expressed JCAB's appreciation for FAA hosting the meeting, and thanked the interpreters for their support. Ms. McCormick again congratulated JCAB on the successful implementation of domestic RVSM and the smooth transition into the ATMC. She noted the progress made on the action items, and the desire of the FAA to provide benefits for the airspace users operating in the Pacific Region, and particularly in the Oakland and Anchorage FIRs. She concluded by thanking Mr. Kunitake and the JCAB participants for support prior to and during the meeting.

/s/ *Shigeru Kunitake*
Shigeru Kunitake
Co-chair for JCAB

/s/ Leslie S. McCormick
Leslie S. McCormick
Co-chair for FAA

Attachments:

Appendix A – Meeting Attendees
Appendix B – CNS/ATM Planning Chart
Appendix C – Open Action Items

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	Capacity Enhancement/Action Required	*Action with*	*Action Due*	*Date Completed*
	IMPLEMENT REDUCED VERTICAL SEPARATION			
	Implement RVSM FL290-410	FAA/JCAB		5 Oct 2000
	IMPLEMENT 50NM LATERAL SEPARATION			
	Implement on NOPAC routes/transitions	FAA/JCAB		3 Dec 1998
	Implement on CENPAC PACOTS	FAA/JCAB		3 Dec 1998
	Implement on CEP Tracks	FAA		24 Feb 2000
	Implement on Japan/Hawaii PACOTS (Generate tracks at 50NM separation)	Oakland ARTCC ATFMC Japan		3 Oct 2002
	IMPLEMENT 50NM LONGITUDINAL SEPARATION[1]			
	Amend Doc 7030 to permit application in Tokyo/Naha/Oakland/Anchorage FIRs	JCAB/FAA		20 April 2004
	Replace CPDLC waypoint reporting with ADS waypoint/periodic reporting within Tokyo FIR	JCAB	2007	
	Replace CPDLC waypoint reporting with ADS waypoint/periodic reporting within Anchorage FIR	FAA	2006	
	Replace CPDLC waypoint reporting with ADS waypoint/periodic reporting within Oakland FIR	FAA		October 27, 2005
	Implement for step climb/descent in Tokyo FIR	JCAB		11 April 2005
	Implement for climb/descent in Anchorage FIR	FAA	2006	
	Implement for climb/descent in Oakland FIR	FAA		October 27, 2005
	Implement for cruise in Tokyo FIR	JCAB	2006	
	Implement for cruise in Anchorage FIR	FAA	2006	
	Implement for cruise in Oakland FIR	FAA		October 27, 2005
	IMPLEMENT 30NM LATERAL SEPARATION			
	Amend Doc 7030 to permit application in Tokyo/Naha/Oakland/Anchorage FIRs	JCAB/FAA		20 April 2004
	Apply[2] in limited NOPAC/CENPAC airspace	FAA/JCAB	TBD	
	Apply in all NOPAC/CENPAC airspace	FAA/JCAB	TBD	
	IMPLEMENT 30NM LONGITUDINAL SEPARATION			
	Amend Doc 7030 to permit application in Tokyo/Naha/Oakland/Anchorage FIRs	JCAB/FAA		20 April 2004
	Apply in limited NOPAC/CENPAC airspace	FAA/JCAB	TBD	

[1] Implementation of 50NM longitudinal separation will not be exclusionary

[2] "Apply" means that the air traffic controller may apply this separation standard on one or more tracks, or between two or more aircraft that are suitably equipped.

	Capacity Enhancement/Action Required	*Action with*	*Action Due*	*Date Completed*
	Apply in all NOPAC/CENPAC airspace	FAA/JCAB	TBD	
	IMPLEMENT TRACKS 14/15 HKG/TPE TO/FROM LAX/SFO			7 Sep 2001
	IMPLEMENT DARPS			
	Limited implementation on Tracks 14/15	Oakland ARTCC	TBD	
	Conduct trials	Oakland ARTCC	TBD	
	Implementation in North Pacific	FAA/JCAB	TBD	
	Complete study	JCAB		19 Apr 2002
	Implementation in CENPAC	JCAB	TBD	

OPEN ACTION ITEMS*

Action Item	Description	Responsible Office	Status and Action to be taken	Date Due
IP/11-2	Application of a 10-minute longitudinal separation minimum without the mandatory application of Mach Number.	ICAO	ICAO reported that a letter had been received from the Secretary to the Air Navigation Commission stating that if no adverse comments were received, the proposal would go to the Council for approval on 5 Dec 2005. Awaiting final approval.	5 March 2006
IP/13-3	Expansion of Russian Routes	ICAO FAA JCAB	A Special Coordination Meeting on Polar and Russian Trans-East Routes was held in Bangkok in Nov 2005. Following the meeting, the Russian Federation sent a letter to the ICAO Secretary General expressing appreciation for the meeting and asking for continued support. Update to be provided to IPACG/25.	27 October 2006
IP/13-4	Implement 50NM ADS longitudinal separation minimum in the North Pacific area	JCAB FAA	Oakland ARTCC is applying 50NM longitudinal separation between appropriately equipped aircraft in a mixed environment. JCAB plans to apply 50NM longitudinal separation minimum between aircraft at cruise in the oceanic airspace of Fukuoka FIR beginning in mid 2006. Anchorage ARTCC is expected to implement in a mixed environment once the Ocean21 system is operational. Update to be provided to IPACG/25.	27 October 2006
IP/17-5	Evaluate current lost communications procedures	ICAO	Comments were received from the ICAO APAC Office and ICAO Headquarters. An ad hoc working group developed revisions to the proposed amendment. FAA will present the revisions to ISPACG/20. The final version will be coordinated with all proposing States.	1 April 2006

* Action Items for the FANS Interoperability Team (FIT) will be tracked separately by the FIT co-chairs.

Action Item	Description	Responsible Office	Status and Action to be taken	Date Due
IP/18-2	Implement flight re-routing between Japan and Hawaii tracks.	JCAB	JCAB presented a plan to IPACG/23 to consider the time of daily generation, coordination, and publication of PACOTS Tracks 11 and 12. The study will evaluate advantages and disadvantages from the viewpoint of airspace users as well as ATS providers. ATMC will start the assessment in March 2006 and will update future IPACG meetings on the progress.	27 October 2006
IP/19-1	Develop ATC contingency procedures to be used during a failure of satellite datalink	ICAO	The ICAO APAC Office is reviewing the proposed amendment against other Doc 7030/PANS-ATM amendments. If there is no contradiction, it will be sent to ICAO HQ for review.	31 March 2006
IP/21-4	Expansion of RVSM-Exclusive Airspace to FL410		Japan implemented domestic RVSM on 29 Sept 2005. **CLOSED**.	
IP/21-5	Implement 30NM lateral/30NM longitudinal (30/30) separation	FAA JCAB	FAA provided information to the meeting on the operational trial of 30/30 in Oakland Sector OC3, which began on 22 Dec 05. Further expansion of 30/30 will take place based on the outcome of safety assessments. Update to be provided to IPACG/25.	27 October 2006
IP/21-6	Tokyo/Oakland 25N and 160E CTA boundary fixes	JCAB	It was agreed that JCAB would conduct a similar study to the one conducted by FAA. In addition, JCAB offered to study other options, including the possibility of aligning the FIR boundary and CTA.	27 October 2006
IP/21-7	Develop common traffic management terminology	FAA ATCSCC JCAB ATMC	The ATCSCC and ATMC agreed to use phraseology developed by MAPCOG, EUROCONTROL and the Russian Federation as the basis of their work. The Task Force will evaluate the differences and similarity of that terminology/phraseology with that used by their organizations and exchange their findings. Update to be provided to IPACG/25.	27 October 2006

Action Item	Description	Responsible Office	Status and Action to be taken	Date Due
IP/21-8	Evaluate the feasibility and capability of utilizing the Internet as a medium for ATFM communication	FAA ATCSCC JCAB ATMC	The test of the web conference capability was delayed due to security issues. ATCSCC and ATMC expected the issues to be resolved by the end of March 2006. It is anticipated that the test can be conducted in Spring 2006. Test results will be reported to IPACG/25.	27 October 2006
IP/22-1	Transfer PSS1 communications circuit to support activation of the ATMC		The transfer of the PSS1 was successfully concluded. **CLOSED.**	
IP/22-2	Review of the structure of fixed routes from Western PACOTS gateways to Japanese domestic airspace	JCAB	ATMC spent two months in Fall 2005 working on resolutions. Trials were conducted but there was insufficient data. ATMC plans to conduct further studies in mid-2006. It is hoped that these studies will lead to development of a comprehensive solution. An update will be provided to IPACG/25.	27 October 2006
IP/22-3	Consider operational testing of in-trail procedure using new technologies	FAA	FAA provided information on the Global Air Traffic Interoperability (GATI) program, which includes an in-trail procedure based on ADS-B. Update to be presented to IPACG/25.	27 October 2006
IP/23-1	Continue inter-agency discussions in hopes of reaching a mutually acceptable agreement on the exchange of traffic data for ATFM	JCAB	Discussions were held relating to further data exchange. JCAB expressed interest to begin exchanging traffic data in FY2009.	Ongoing
IP/23-2	Conduct a study to evaluate the effectiveness of the current airspace/route structures	FAA JCAB Airlines	Following FAA's implementation of Ocean21, Anchorage and Oakland will conduct an internal airspace review. Taking into account resources to support horizontal separation reductions and the opening of the JCAB ATMC, of a plan for the study on a Pacific-wide basis has not been developed. The airlines were asked to identify specific high priority traffic flows in order that a smaller scale study could be conducted. Recommendations should be submitted to the Co-chairs.	Ongoing

Action Item	Description	Responsible Office	Status and Action to be taken	Date Due
IP/23-3	Adopt Version 2 of the Asia/Pacific AIDC Interface Control Document (ICD) as the basis of inter-facility data communications between ATMC, Anchorage ARTCC, and Oakland ARTCC.	FAA JCAB	JCAB agreed to progress toward full implementation of AIDC Version 1. Updates will be provided to future meetings.	Ongoing
IP/23-4	Initiate steps to reduce dependence on HF communications within the Pacific Region.		Little progress has been made in furthering HF regression. Significant technical and operational issues must be resolved. At such time as further progress can be made, the meeting will reconsider this item. C**LOSED**.	
IP/23-5	Improve procedures for reporting weather and turbulence		FAA reported on the work of the ICAO METLINKSG. It was agreed that this is outside the scope of IPACG and airlines' concerns should be brought to the attention of the METLINK SG. **CLOSED**.	